Claims

1. A hydrophilic coating for surfaces consisting of a) a coating comprising one or more polysilazanes and b) a coating comprising a salt of a carboxylic acid, in particular a hydroxycarboxylic acid, or a cationic or anionic silane, or an oligomer or polymer.

2. The hydrophilic coating as claimed in claim 1, which comprises at least one polysilazane of the formula 1,

$$-(SiR'R''-NR''')_n- \qquad (1)$$

where R', R'', R''' may be identical or different and are either hydrogen or organic or organometallic radicals and in which n is such that the polysilazane has a number-average molecular weight of from 150 to 150 000 g/mol.

3. The hydrophilic coating as claimed in claim 2, wherein the polysilazane is a perhydropolysilazane (R' = R'' = R''' = H).

4. The hydrophilic coating as claimed in at least one of the preceding claims, wherein the ionic reagent is an inorganic salt, and the hydrophilicity of the surface can be increased by irradiation with UV light.

5. A method for producing a hydrophilic coating comprising one or more polysilazanes and an ionic reagent or mixtures of ionic reagents where, in a first step, a surface is coated with at least one polysilazane and then, in a second step, an ionic hydrophilizing reagent or mixtures of ionic hydrophilizing reagents in a solvent are applied.

6. The method as claimed in claim 8, wherein the polysilazane used is at least one polysilazane of the formula 1

$$-(SiR'R''-NR''')_n- \qquad (1)$$

where R', R'', R''' may be identical or different and are either hydrogen or organic or organometallic radicals and in which n is such that the polysilazane has a number-

average molecular weight of from 150 to 150 000 g/mol.

7. The method as claimed in claim 6 and/or 7, wherein the polysilazane is used in the form of a solution in an inert organic solvent which may optionally also comprise a catalyst and/or additives for improving the surface wetting and/or film formation.

8. The method as claimed in at least one of the preceding claims 6 to 8, wherein the ionic reagent used is a salt of a carboxylic acid, in particular of a hydroxycarboxylic acid, or a cationic or anionic silane, or an oligomer or polymer.

9. The method as claimed in at least one of the preceding claims 6 to 9, wherein the ionic reagent used is an inorganic salt whose effectiveness with respect to the hydrophilicity of the surface can be increased by irradiation with UV light.

10. The method as claimed in at least one of the preceding claims 6 to 10, wherein the ionic reagent is dissolved in a solvent from the following group: water, alcohol, ketone, carboxylic acid, ester or mixtures of these solvents.

11. The method as claimed in at least one of the preceding claims 6 to 11, wherein the surface to be coated is chosen from the following group: metal, plastic, porous mineral materials, paint- or resin-like surface, organic material or glass.

12. The method as claimed in at least one of the preceding claims 6 to 12, wherein the surface is coated with the pure polysilazane or polysilazane solutions and the polysilazane coat thickness following evaporation of the solvent and curing is in the range from 0.01 to 10 micrometers.

13. The method as claimed in at least one of the preceding claims 6 to 13, wherein the surface is pretreated with a primer prior to coating with the polysilazane or the polysilazane solution.

14. The method as claimed in at least one of the preceding claims 6 to 14, wherein the coating, both with the polysilazane, and also with the ionic reagent, is carried out at a temperature in the range from 5 to 40°C.